

EVIDENCE 3

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## An improved modification of a separating wall

## Abstract

An improved modification of separating wall is formed by fixing modeling steel upright, with holes on both sides thereof, attaching wallboards to both sides of the modeling steel, and securing the wallboards with fixing elements fitting in the holes, wherein each wallboard has a thinner lip portion on its periphery, which forms a groove to be taped and filled with slurry between two adjacent wallboards, and the wallboards have an uneven plane on their inner surfaces and holes provided for nails or screws to be fitted in.

## Background

An improved modification of separating wall is disclosed in Taiwan Patent Publication No. 221308 entitled "Construction Method for Interior Partition Wall and Metal Mesh for the Same" which shows that an interior partition wall is constructed by the steps: aligning modeling steel in columns, attaching metal mesh to one side of the modeling steel, arranging with steel bars and utility lines, attaching metal mesh to the other side of the modeling steel, two metal meshes being fixed inbetween to prevent an outward expansion, and finally filling between two metal meshes with slurry to form a partition wall. In this application, the modeling steel and the metal mesh are provided at work site for filling with slurry, and the wall surface is treated with finishing, painting and so forth. Therefore, it takes a longer time for completion of the construction. Further, there are wallboards made of various materials, which is more convenient for the subsequent finishing, painting, and so forth, so as to replace the metal mesh, but this kind of wallboards cannot bear the stress from slurry and results in deformation, fracture and so forth which may lead to an outflow of slurry or an improper coupling between the wallboards and slurry.

It is an object of the present application to provide an improved modification of separating wall for improving the above-mentioned shortcomings, which is provided with proper holes on wallboards for unnecessary water flowing out after filling of slurry, and makes a stronger combination between the wallboards and slurry.

Referring to Figure 1, according to the present application, modeling steel 1 is fixed upright, and the wallboards 2 are provided on both sides of the modeling steel 1 to form a partition wall.

The modeling steel 1 may be conventional metal beams and columns with a U-shaped section for steel structure, of which holes 11, which may be general or threaded holes, are provided, for the surfaces of the partition wall, on both sides for the modeling steel 1 to be combined with the wallboards 2 by fitting with fixing elements such as nails, screws etc. A larger surface of the modeling steel 1 is provided with holes 12 having a larger diameter which forms a passage for slurry to flow through and utility lines to pass through.

The wallboards 2 may be made of any conventional materials, of which a lip portion 21, which is provided with holes 22 for the fixing elements 23 to be fitted through so as to fix the wallboards 2 onto the modeling steel 1, is formed on the periphery, and the lip portion 21 has a smaller thickness which makes a groove, which is taped with an adhesive tape and smoothed by filling with slurry that makes a smooth and neat figure on the whole surface of the wall, formed between the lip portions 21 of two adjacent wallboards 2. The inner surface of the wallboards 2 is provided with uneven slots 25, which may be a regular or irregular arrangement to be formed as an uneven plane, and the wallboards 2 have holes 26 with a smaller diameter for riveted nails 27 or screws 28 to be fitted through. Accordingly, upon filling with slurry, the residual water can infiltrate out of the holes 26, and when slurry dries out, the riveted nails 27 or screws 28 enable the wallboards 2 and the dried-out slurry to form a solid combination. Further, for an easy filling of slurry, holes 29 with a larger diameter are provided on top portion of the wallboards 2 which can be attached to a proper position of the whole wall where slurry is filled in (as shown in Figure 3).

Upon filling in the holes 29 with slurry, the holes 29 on one side of the wall are closed by a conventional method, such as nailing down plates thereon, when getting near to filling up, and the holes 29 on the other side of the wall can be filled with non-shrinking slurry, which is also used to fill up the space between the holes 29 and a beam on top or ceiling.

Referring to Figures 2 & 3, according to the present application, upon the modeling steel 1 and the wallboards 2 being fixed, the holes 29 of the wallboards 2 on the top portion of the wall is filled in with slurry, and since the holes 26 on the wallboards 2 has been fitted with nails 27 or screws 28, the residual water can infiltrate out of gaps inbetween, and the holes 26 can be filled up by a slight amount of slurry and sands contained in the infiltrated water or can be smoothed up by a mending work, to form a neat and smooth surface.

Referring to Figure 4, upon the dried-out of slurry, the lip portions 21 between the wallboards can be taped with an adhesive tape 24, and then filled up with slurry, and thus the wallboards 2 have a smooth surface inbetween. Further, due to the fitting of the nails 27 or screws 28, an integrated solid combination is formed between the wallboards 2 and slurry, and therefore, there will be no problems for detaching of the wallboards 2.

According to the present application, the wallboards are provided with the holes 26, and thus water contained in slurry can properly infiltrate out, which can reduce the pressure from slurry. Meanwhile, since the holes 26 are fitted with the nails or screws and the inner surface of the wallboards are provided with the uneven plane, there is a better effect for the combination between the wallboards and slurry, and no detaching problems inbetween.

#### Brief Description of Drawings

Figure 1 is an exploded perspective view of the present invention;

Figure 2 is a cross sectional side view of the present invention;

Figure 3 is a view showing a condition upon the filling of the slurry according to the present invention; and

Figure 4 is a view showing a condition after the filling of the slurry according to the present invention.

What is claimed is:

1. An improved modification of a separating wall in which holes are provided at two sides thereof for fixing elements to combine with wall sheets after section steels have been fixed, characterized by:  
each of the wall sheets having an edge portion, said edge portion being thinner than other portions such that a concave slot is located between the edge portions of adjacent walls for a glue tape to stick on and for concrete to flap on, wherein an inner wall of the wall sheet has a non-flat surface and several holes are provided in the wall sheet for nails or studs to fix on.
2. The improved modification of a separating wall as claimed in claim 1, wherein said inner wall of the wall sheet is formed with regular or irregular slots.
3. The improved modification of a separating wall as claimed in claim 1, wherein said nail is provided with a reverse hook.

4. The improved modification of a separating wall as claimed in claim 1, wherein said wall sheet is provided with a hole having a larger diameter for filling the slurry.

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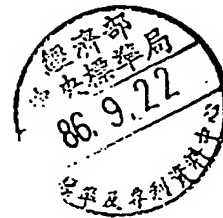
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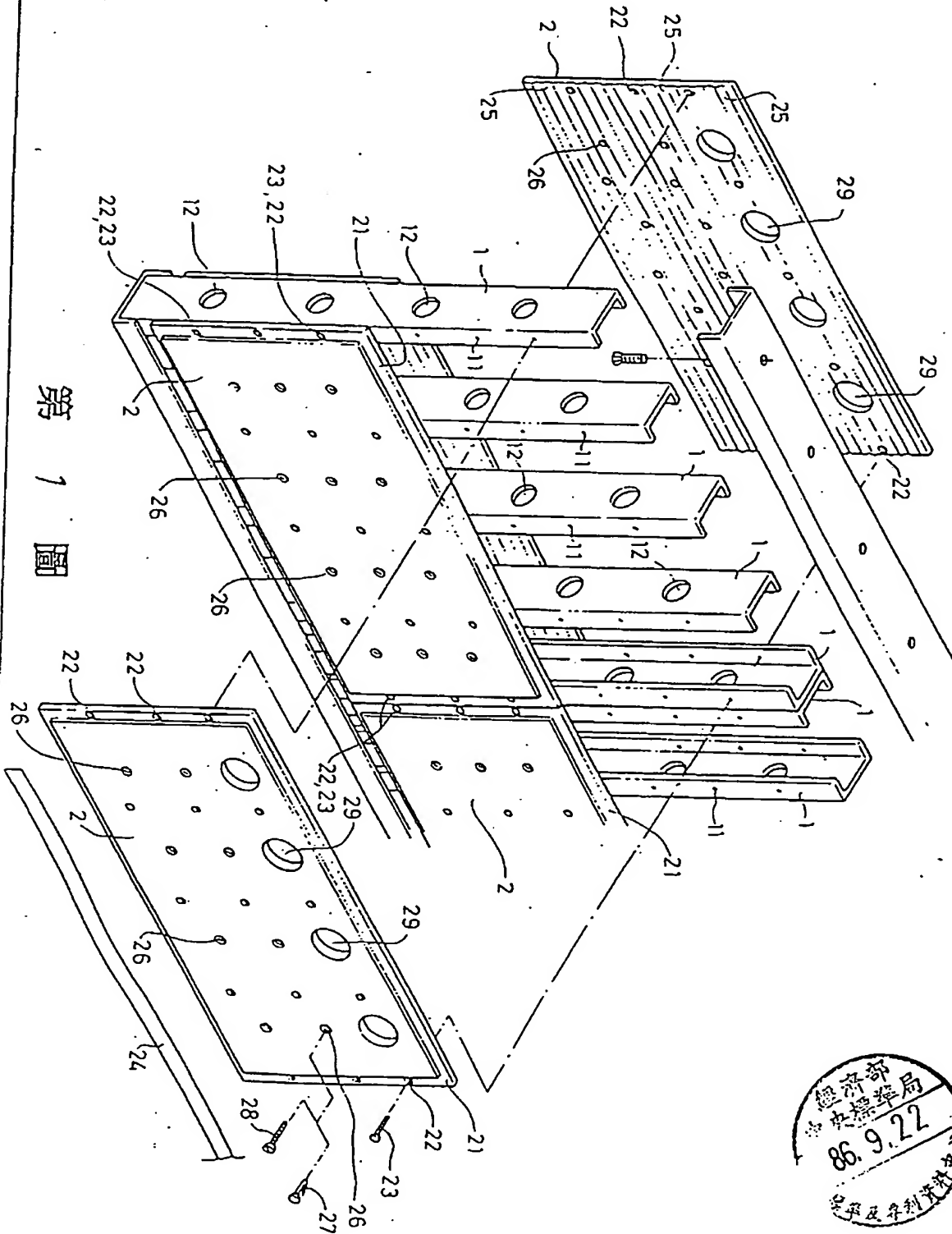
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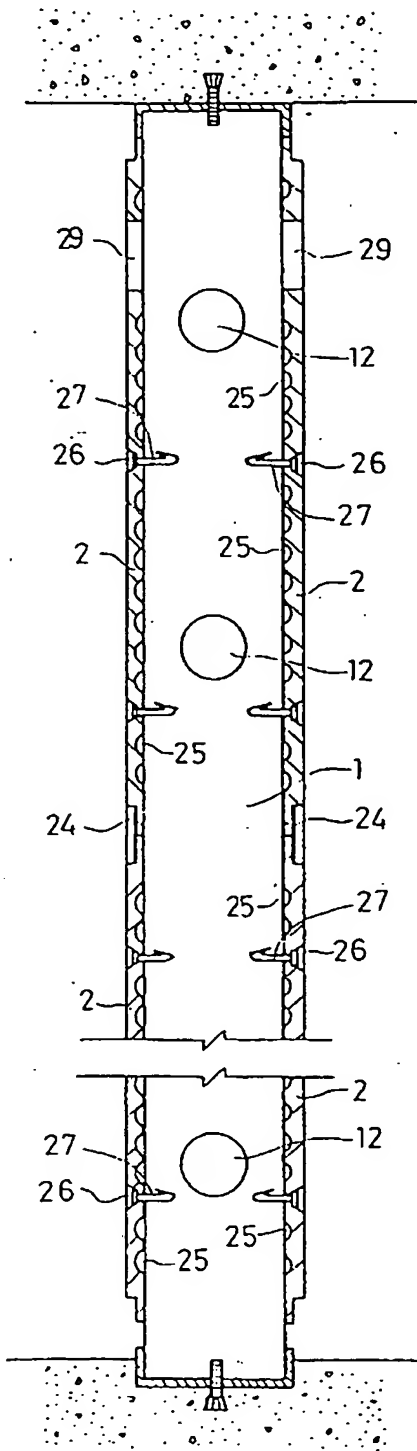
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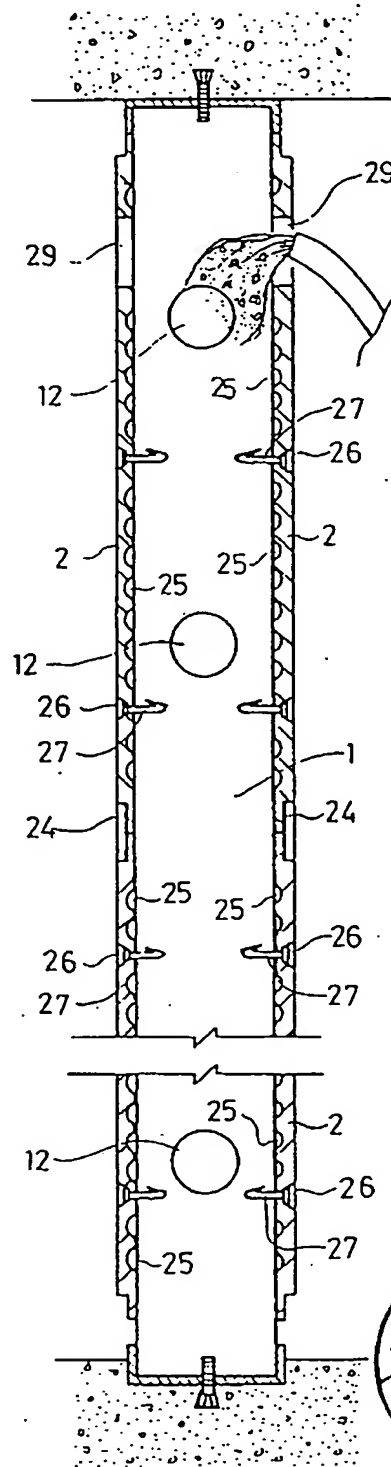
第 1 圖



圖式



第 2 圖



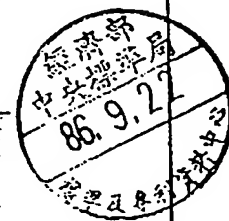
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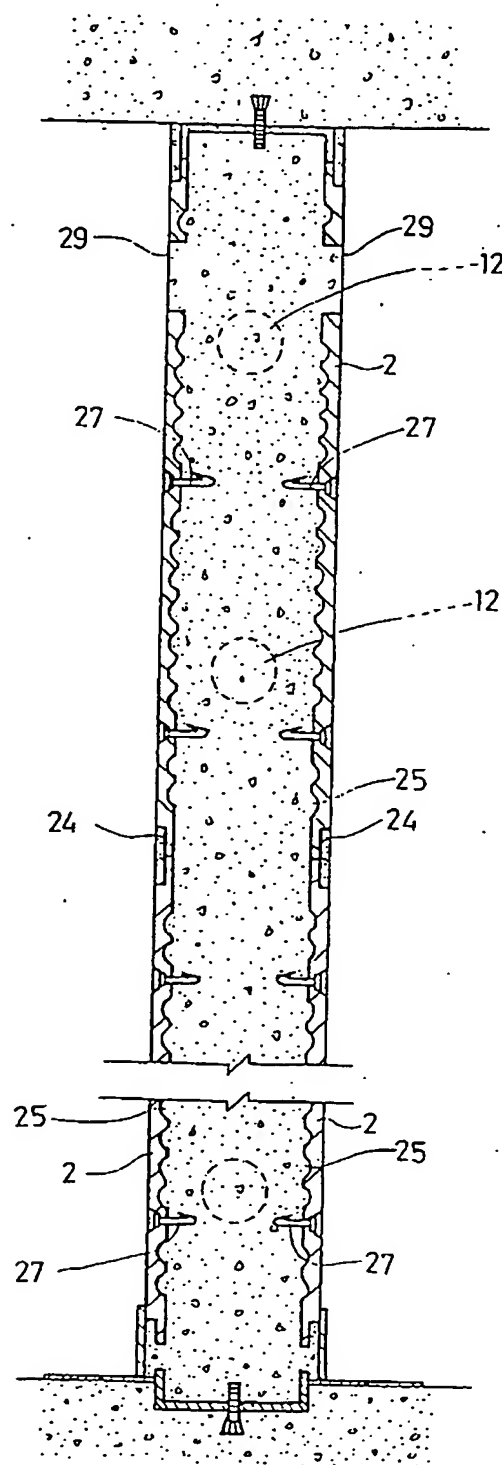
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